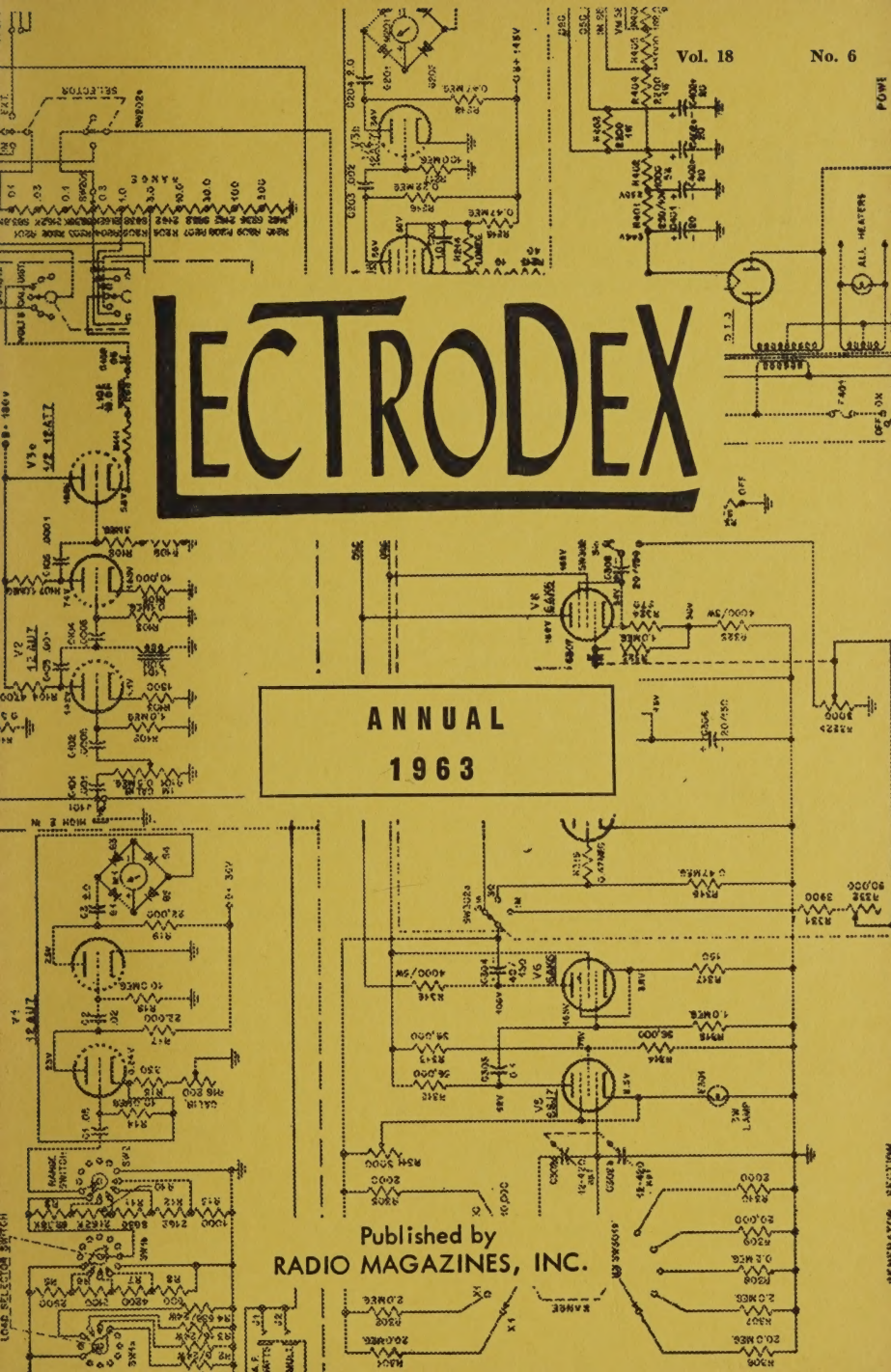


ANNUAL
1963

Published by
RADIO MAGAZINES, INC.



LECTRODEX

formerly
RADIOFILE

Vol. 18 No. 6 November-December, 1963

Published bi-monthly by Radio Magazines, Inc., Henry A. Schober, President; C. G. McProud, Secretary. Executive and Editorial offices, 204 Front Street, Mineola, N.Y. Address all mail and communications to P. O. Box 629, Mineola, N. Y. Printed in U.S.A. at Mineola, N. Y. All rights reserved. Entire contents copyright 1964 by Radio Magazines, Inc.

SUBSCRIPTION RATES: U.S. and Possessions, \$3.00 for six issues, \$5.50 for twelve issues. All other countries, \$3.50 yearly. ANNUALS (containing all indexes for the calendar year) as available, \$1.00 each, payable in advance.

Edgar E. Newman Editor
Henry A. Schober Business Manager
A. G. Baker Circulation Manager
C. G. McProud Publisher

LECTRODEX
P. O. Box 629
Mineola, New York

THE MAGAZINE INDEX

All material of permanent value in the periodicals listed is indexed by subject, not by title. Each bi-monthly index is cumulative, listing all material of the current year, so that only the latest issue need be consulted. The year-end ANNUAL is retained for permanent reference.

The notation following each item indicates publication, month, and page, followed by a letter which gives an indication of the general type of article. In those magazines in which schematics of radio and television circuits appear as a special section or as fold-out pages, there is no page number given, but the identifying letter "s" indicates that the reference is a schematic in such a section or group of pages.

ARTICLE CLASSIFICATIONS

The letter following the page number of each listing indicates the classification of the article as follows:

Theory, design data t
Construction, modification c
Description, general discussion g
Charts, nomographs, lists, etc. d
Schematics for service information s

Subscription Rates: U.S. & Possessions \$3.00 for six issues; \$5.50 for twelve issues; all other countries \$3.50 for six issues.

Please enter my subscription for LECTRODEX. I enclose \$ _____

for a _____ issue subscription.

Name _____

Address _____

City _____ Zone _____ State _____

LECTRODEX

THE ELECTRONIC MAGAZINE INDEX



A

ACOUSTICS

- acoustic focusing with spherical structures
AS Mar 286g
- acoustic properties of steel wool
AS Apr 495g
- acoustics & architecture S July-Aug 15g
- acoustics & the Arts S May-June 8g
- acoustics in broadcasting BE July 28g
- acoustics of the Jacksonville Civic Auditorium AS Oct 1501g
- acoustical investigations of the clarinet
S May-June 22g
- acoustics for school music departments
S Jan-Feb 28g
- classrooms in use S Jan-Feb 16g
- introduction to school acoustics
S Jan-Feb 9g
- recent trends in the design of school sound systems S Jan-Feb 33g
- reflectivity of panel arrays in concert halls S May-June 26g
- room acoustics for stereo HF Feb 50g
- school auditorium S Jan-Feb 19g
- sound of change in the American schoolhouse S Jan-Feb 12g
- sound reinforcement at Philharmonic Hall
A Apr 38g
- sound reinforcement at the Ziegfeld
A July 21g

ALTERNATORS

- alternators: selection & installation
EW June 70g

AMATEUR RADIO

- A. C. in radio circuits QST Mar 20g
- QST Apr 22g QST May 38g
- QST June 14g QST July 39g
- A "G-Line" for UHF CQ Feb 38g
- audio meter reader for the sightless
QST Apr 28c
- broad-band Nuvisor preamplifier
CQ May 26c
- bugless bug QST Sept 23c

- cascode pre-amp for 14 & 21 Mc.
CQ Oct 39c
- checking signal quality with the receiver
QST Mar 34g
- code bander PE Aug 45c
- "Collins" Pi CQ Dec 42g
- compact receiver for the CW man
CQ Sept 22c
- converting commercial V.H.F. gear to
amateur use CQ July 36g
- crystal filters for CW reception
CQ Feb 36g
- cw keying monitor EL Jan 45c
- double-conversion V.H.F. converter with a
single oscillator QST Feb 18g
- finger keying consolidated QST Aug 32c
- fully-manual time-sequence key CQ Sept 41c
- grid dip modulator PE Mar 57c
- ground-grid Nuvisor preamplifiers
QST May 42c
- heterodyne converter for 6 meters, SSB
CQ June 36c
- how to read circuit diagrams QST Aug 39g
- importance of neutralization CQ Mar 37g
- inexpensive amateur TV using the '630'
CQ Mar 26c
- measuring inductance of D. C.-loaded
chokes QST Feb 16g
- minimizing interference from Loran on
160 meters QST Jan 24c
- modifying the Millen 90800 exciter
CQ Oct 41c
- new approach to learning the code
CQ Jan 47g
- oscilloscope monitoring adaptor CQ Nov 76g
- practical gear for amateur microwave
communication QST June 17g
- protect your equipment from theft
CQ Nov 70g
- pulse: a practical technique for amateur
microwave work QST Feb 23g
- QST Mar 26g QST Apr 31g
- QST May 58g
- R.F. power output measurements
EW Oct 53g

- single layer coils CQ Aug 36g
special section—amateur radio EL Sept 32g
spectrum—inspector—complete panoramic receiver CQ Dec 38c
surplus vidicon TV camera CQ Sept 28c
tool & workshop practices for the radio amateur CQ Nov 30g
top band goes mobile PE June 55c
transistorized converter for 80 or 40 CQ Mar 29c
transistorized electronic keyer CQ June 32c
transistorized mobile converter CQ Apr 32c
two Nuvistor converters for 220 Mc. QST Apr 25c
22CMc S.S.B. mixer amplifier from the AN/DMQ-2 CQ July 25c
understanding transistors as applied to amateur radio CQ Jan 49g
VHF transistor bargains CQ Feb 45g
wonderful world of amateur radio EL Sept 29g
- AMPLIFIERS**
analysis of the bootstrap follower WW Jan 21g
analyzing cascaded amplifier systems BE Oct 14g
- AUDIO**
amplifier design point—importance of volume control FN Dec 515g
amplifier power—how much is enough? HF Nov 54g
design of solid-state stereo power amplifier with silicon transistors A Jan 21g
eight transistors - 10 watts of hi-fi RE May 44c
14 watt transistor hi-fi amplifier EW May 46c
loudness control EW Dec 34g
noise in audio amplifiers WW Sept 44g
one kilowatt transistor audio amplifier AES Jan 34g
some thoughts on tone controls & filters FN July 106g
the mini-fi EL Jan 82c
three watt transistor audio amplifier WW Dec 598c
20 watts stereo—3 tubes RE Nov 28c
checking frequency-compensating circuits A May 26g
chopper-stabilized DC amplifier RE Aug 40c
Class D amplifiers A June 24g
A July 24g A Aug 23g
cross-coupled differential amplifier has low input impedance ED June 7 64g
DC amplifiers using transistors EE Apr 257g
- design aspects of low distortion transistor amplifiers AES Apr 98g
design of resistance-coupled audio amplifiers BE June 16g
designing operational amplifiers ED Mar 29 56g
designing servo amplifiers for high efficiency E Feb 8 62g
direct coupling shrinks amplifier size & cost E Mar 22 66g
equivalent circuit for a two-stage common emitter amplifier EE Apr 238g
frequency response of transistor A.F. amplifier EE July 466g
ground rules for low-frequency, high-gain amplifiers ED Apr 12 56g
ED Apr 26 62g
high-quality transistorized stereo preamplifier A Jan 35c
A Feb 39c A Mar 34c
high-quality transistorized tape recorder amplifier A May 17c
hybrid coupled tunnel diode amplifier analysis as a basis for design SP May 40g
intermodulation distortion in linear amplifiers QST Sept 52g
latest approach to integrated amplifier design E May 31 24g
low-frequency reactance amplifier IEEE Feb 298g
low-noise preamplifier using field-effect transistors E Apr 12 67g
Masers & parametric amplifiers in radio astronomy IEEE Jan 30g
modulated pulse A. F. amplifiers WW Feb 76g
network tuned amplifiers with variable bandwidths EE Feb 109g
new feedback broadbanding technique for transistor amplifiers SP May 34g
9 watt transistorized hi-fi amplifier EW Mar 46c
nomograph speeds amplifier design E July 5 38d
non-linearity distortion measurement WW Apr 161g
operational amplifier EW July 52g
EW Aug 48g
pre-amp for the M. A. 15 FN Jan 535g
pre-fab transistor amplifiers end building headaches RE Sept 74g
push-pull Class AB transformerless power amplifiers PGA Jan-Feb 6g
quick calculations for RF amplifiers ED June 21 52g
RF amplifiers—solving the stability problem ED Dec 20 36g

short-cut design of a transistorized
 AF power amplifier ED Dec 6 54g
 solving the AGC dilemma-servo system uses
 attenuator E July 19 60g
 subaudio parametric amplifier for
 ocean-bottom seismometer E Mar 1 28g
 tape-deck preamp EW Feb 90c
 testing amplifier response with an
 oscilloscope A June 34g
 transistor amplifier output stages
 WW Jan 17g WW Feb 95g
 WW Mar 148g WW Apr 179g
 WW May 234g WW June 310g
 transistor amplifier with AGC EI Jan 200g
 transistor antenna preamplifier
 WW Dec 580c
 transistor high-quality amplifiers
 WW May 221g
 WW June 300g WW July 351g
 transistor high-quality pre-amplifier
 WW Aug 376g
 try fixed bias in all stages RE Apr 24c
 unconditional stability in tunnel-diode
 amplifiers RCA Mar 94g
 versatile servo amplifier for 50, 60 or 400
 cycle operation E Jan 18 44g
 Westinghouse AM/FM tuner/Amplifier
 V-2515-6 TC Mar s
 wide-band computing amplifier
 EE Apr 240g

ANTENNAS

all about coax S9 Feb 9g
 antenna illuminated by a cavity
 resonator IEEE Nov 1431g
 antenna impedance matching CQ Nov 63g
 CQ Dec 33g
 antenna installations for color TV
 TC Aug 48g
 antennas & boosters for color
 TV RE Dec 44g
 antennas for business radio EW Mar 33g
 antennas & feeders
 antenna impedance; directivity
 QST Nov 36g
 beam antennas; power gain QST Dec 53g
 resonance in linear circuits QST Oct 30g
 antennas have built-in circuits EI May 115g
 attic all-bander antenna CQ June 35c
 automatic tracking antenna systems
 EI Oct 92g
 base station & mobile antennas TC Jan 32g
 beam hoist for a wood pole QST Aug 48c
 conical scan array uses variable
 phase shifters E Nov 29 30g
 design of Yagi antennas CQ May 38g
 design tool for millimeter-wave
 antennas E Dec 27 29g
 directional antenna phasing BE Oct 26g

easy-match for high-impedance antennas
 QST Jan 47c
 electronic antenna . . . pros & cons
 EW Feb 41g
 extra wide-band antennas CQ Oct 45g
 15 Meter beam for less than \$5.00
 QST June 24c
 FM-stereo antennas TC Mar 55g
 FM-Stereo reception A Jan 19g
 fringe area antenna installation
 TC Apr 50g
 glass-fiber array produces many beams
 E Nov 1 28g
 how to measure field patterns with
 photosensitive probes E Jan 25 39g
 hula-hoop antennas: a coming trend?
 E Jan 11 44g
 hula hoop - ham or CB antenna
 PE July 25g
 indoor horn for TV-FM reception
 EW Dec 50g
 installing communication antennas
 PF Apr 38g
 interlaced quad array for 50 & 144 Mc.
 QST Feb 11c
 locating directional antenna systems
 BE Jan 22g
 log-periodic V RE June 24g
 major improvements for short-wave
 reception RE July 20g
 measuring missile antenna impedance in
 flight E July 12 36g
 multielement Quad QST May 11c
 new antenna idea: scanning without phase
 shifters E Mar 29 27g
 new developments in Luneberg
 lens antennas EI Nov 100g
 plan for making antenna proofs BE Apr 22g
 propagation path: key to antenna
 selection ED Dec 20 44g
 quadhelix antenna for the 1215-Mc band
 QST Aug 36c
 quarter wave 80 meter Marconi
 CQ Aug 44c
 recommended FM antennas HR Oct 54g
 remote pickup broadcast antennas
 BE Jan 12g
 remotely-tuned mobile antennas
 QST June 11c
 sizing up antennas PF Apr 56g
 skew-planar wheel antenna QST Nov 11c
 some notes on the care & feeding of
 grounded verticals QST Oct 45g
 spotting antenna failures PF Apr 44g
 standards & test procedures for
 master antenna systems TC Mar 43g
 theory of directional arrays BE May 24g
 three-band log-periodic antenna
 QST June 50c

transistor antenna prepamplifier
 WW Dec 580c
 trap collinear antenna QST Aug 30c
 Tri-band birdcage CQ July 30c
 TV/FM fringe antenna installations
 TC Mar 40g
 UHF antennas—new boom ahead
 PF Oct 46g
 unique bridge measures antenna operating
 impedance E Feb 22 51g
 VLF loop antenna EW Jan 49c
 when to use a unipole antenna design
 BE Feb 26g

ASTRONOMY

aiming a 3-ton telescope hanging from
 balloon E Feb 8 47g
 Arcibo: new era in radio
 astronomy E Dec 20 29g
 Masers & parametric amplifiers in radio
 astronomy IEEE Jan 30g
 radio astronomy with Australian
 telescope IEEE Nov 1464g
 Automatic Checkout Equipment
 ED Jan 18 42g

AVIATION

improved air traffic communication &
 weather nets planned E Jan 4 92g
 jet transport communications EW Nov 27g
 new air-traffic system predicts flight paths
 E Feb 1 27g
 new approach to weather data: every
 plane a station E July 12 38g
 new light on traffic: bright plan display
 with alphanumerics E July 26 42g
 noise levels of turbojet—& turbofan-
 powered aircraft S Sept-Oct 8g
 unique computer system monitors aircraft
 engines E Jan 11 38g
 weather radar makes flying safer
 RE July 50g
 why U. S. lags Europe in automatic landing
 E Aug 23 21g

B

BATTERIES

battery eliminators - instant DC
 PF June 46g
 inside the dry cell RE May 40g
 modern batteries EW Oct 34g
 radio battery guide PF June 52d
 using alkaline batteries for portable
 equipment CQ Dec 47g
 well regulated battery-solar cell charging
 EI Oct 88g
 which dry battery for you? RE June 46g

BEAMS

an electronic-beam machine RCA Mar 5g

compensated reversed field focusing
 of electron beams IEEE Nov 1653g

BIONICS

bionic computers EW Mar 25g
 bionics - its meaning, promise & danger
 EW June 50g

BROADCASTING

accurate intensity measurements in
 ambient fields BE Feb 22g
 acoustics in broadcasting BE July 28g
 AM-FM relay network techniques
 BE Aug 12g
 analyzing cascaded amplifier systems
 BE Oct 14g
 anomalies of presently accepted FM stereo
 measurement technique AES Apr 160g
 antennas for FM stereo BE Dec 16g
 audio level devices BE June 10g
 BE July 13g BE Aug 16g BE Nov 14g
 automatic music system BE Feb 17g
 broadcast station spare parts inventory
 BE July 14g
 cartridge tape at work BE Apr 30g
 circular broadcast console desk
 BE Nov 42g
 copying system for news slides BE Oct 24g
 directional antenna phasing BE Oct 26g
 economy video switcher BE May 28g
 effects of VSWR on stereo separation
 BE Jan 16g
 FM multiplex stereo installation at
 WHOO-FM AES Apr 178g
 FM Stereo—past, present & future
 BE Dec 20g
 FM stereo proof-of-performance
 measurements BE Aug 10g
 frequency vs wavelength calculations
 BE Aug 24g
 low cost tape delay system BE Nov 34g
 high-power UHF television BE Mar 28g
 interpreting FCC interference rules
 BE Mar 24g
 locating directional antenna systems
 BE Jan 22g
 maintenance of a small TV studio
 BE July 20g
 management FM stereo installation
 problems AES Apr 168g
 mechanical considerations for AM, FM
 & TV towers BE Mar 18g
 monitoring & measuring the FM
 stereo broadcast BE Dec 10g
 new method of stereo broadcasting
 BE May 16g
 new system for automatic program logging
 BE Mar 20g
 phase checking of stereo channels
 BE Dec 18g

planning a new FM stereo station
 AES Apr 155g
 planning for automation
 planning the FM stereo
 installation _____ BE Dec 8g
 planning the modern studio BE June 14g
 practical application of FCC's engineering
 rules _____ BE Feb 14g
 _____ BE Mar 13g
 practical preparation for FM stereo
 multiplexing _____ AES Jan 64g
 proposed television center BE Oct 20g
 remote control of broadcast transmitters
 _____ BE Sept 10g
 remote pickup broadcast antennas
 _____ BE Jan 12g
 review of automatic transmitter logging
 _____ BE Sept 20g
 review of transmission lines BE May 26g
 RF ammeter calibration tests BE Sept 14g
 rotating cartridge rack _____ BE Aug 20c
 setting up for remote broadcasts
 _____ RE Mar 35g
 some practical aspects of FM stereophonic
 broadcasting _____ AES Apr 147g
 sound reinforcement in television
 broadcasting _____ AES July 238g
 spectrum display in broadcast monitoring
 _____ BE Apr 16g
 stereo experience at WASH-FM
 _____ AES Apr 172g
 stereo operational experience of
 WQXR-FM New York _____ AES Jan 61g
 STL remote control systems for FM
 stereo & SCA _____ BE Feb 10g
 suppression practices for broadcast stations
 _____ BE Apr 12g
 techniques for using RG-17/U coax
 _____ BE Jan 14g
 techniques of program level measurement
 applicable to FM stereo _____ AES Jan 58g
 television off-air pickups _____ BE Aug 28g
 television tape techniques today BE Nov 20g
 test equipment checklist _____ BE July 10g
 theory of directional antennas
 _____ BE May 24g
 tracing television interference _____ BE Aug 14g
 transcribing off-air with dictating
 equipment _____ BE Nov 48g
 transistorized amplifier service
 techniques _____ BE Nov 18g
 transistorized audio distribution system
 _____ BE Sept 28g
 transistorized television monitor
 _____ BE Mar 16g
 transmission systems for ETV BE Oct 18g
 updating audio reproducing
 equipment _____ BE Nov 36g
 variable wind for the TR-11 _____ BE Nov 26g

VOA - world's largest, most powerful
 station _____ BE Jan 10g
 when the proof-of-performance fails
 BE May 20g BE June 20g
 BE Oct 16g BE Dec 12g
 Zenith - G. E. stereophonic broadcasting
 system _____ WW Jan 39g

C

CAPACITORS

aluminum oxide as a dielectric
 _____ WW Jan 46g
 characteristics of titanium electrolytic
 capacitors _____ IEEE Oct 1320g
 improvements increase ceramic capacitor
 reliability _____ EI Sept 76g
 modern capacitors _____ EW May 42g
 voltage saturable capacitors ED Apr 12 50g

CARTRIDGES

get the best from those ceramic
 cartridges _____ RE June 28g
 is the cartridge shot? _____ PF Aug 22g
 laboratory report on stereo cartridges
 _____ HR June 41g HR July 34g
 let's look at cartridges _____ EL Sept 106g
 mechanical impedance measurements at the
 stylus of stereo phonograph cartridge
 transducers _____ AES Oct 323g

CIRCUITS

AGC circuit using a thermistor & transistors
 _____ EE Apr 236g
 bootstrap ohmic multiplier _____ EE Nov 717g
 circuit design considerations for integrated
 circuits _____ SP July 25g
 designing input circuits with lowest
 possible noise _____ E Aug 2 46g
 direct-coupled pulse circuits WW Mar 109g
 easy way to find input impedance of
 double-tuned circuits _____ ED Apr 12 66g
 electrometer circuit _____ EE July 454g
 graphs speed unsymmetrical flip-flop design
 _____ ED Sept 13 74g ED Sept 27 56g
 how to read circuit diagrams QST Aug 39g
 _____ QST Sept 36g
 integrated circuit design techniques
 _____ EI Apr 112g
 interference in the learning of circuit
 theory _____ IEEE July 986g
 latest thing in arc-protection circuits
 _____ E Feb 22 54g
 Node Method of circuit analysis
 _____ EI Mar 102g
 Schmitt trigger drives low impedance loads
 _____ E Aug 16 28g
 simple integrator circuit _____ EE Jan 36g
 step-by-step design of sequential circuits
 _____ ED Oct 11 42g

CITIZEN'S BAND

add a second speaker to your mobile rig
S9 Feb 28c
all about modulation for CB EL Mar 84g
basic CB circuit theory _____ EL Mar 40g
EL May 54g
beginner's 1 tube CB receiver S9 Oct 17c
build the channel hopper _____ S9 Jan 14c
build the EI citizenscope _____ EL Mar 58c
build the experimental 753 _____ S9 Feb 16c
build these invisible CB antennas
S9 June 14c
CB antennas: little things mean a lot
EL Mar 78g
CB equipment buyer's guide _____ PE Aug 65g
CB radio-wave propagation _____ EW Dec 46g
CB receiver opens garage door RE Jan 26c
CB repairs you can make without a license
RE Feb 34g
CB rules & regulations _____ TC Jan 27g
CB servicing with a CB set RE Sept 34g
CB signal booster _____ EL Mar 32c
CB transceiver maintenance _____ TC Jan 28g
CB tube substitution directory S9 Aug 18d
curing CB TV interference _____ S9 Nov 9g
easy-to-build sideband adaptor for your
CB receiver _____ EL May 42c
experimenting with long-wire antennas
S9 June 19g
frequency synthesis improves CB coverage
RE Aug 44c
how to get rid of CB TVI EL Mar 37g
how tough are the proposed CB
regulations? _____ EW May 26g
inexpensive indoor 3 element CB beam
S9 June 22c
kill that mobile noise _____ S9 May 9g
modified 'Lazy H' beam S9 June 17c
modulation meter for CB _____ EL Mar 66c
more talk power for your CB rig
RE Oct 48g
new accessories improve Citizen's Band
operation _____ RE June 50g
new Citizens Band circuits _____ EW Apr 48g
EW June 32g EW Sept 41g
put maximum power into your CB antenna
RE May 30c
servicing CB transceivers _____ RE Nov 46g
servicing hand-held CB transceivers
TC Aug 51g
sharpen that receiver _____ S9 Aug 15c
16db speech compressor _____ EL Mar 45c
solid-state 3-watt CB-ham transmitter
EW Oct 46c
Sonar CB model G transceiver _____ TC Mar s
sure cure for ham/CB mobile noise
PE Oct 65c

Utica CB transceiver Model T & C11

TC Aug s

vertical 'J' on 11 meters _____ S9 June 12c

Westinghouse CB transceiver & radio

chassis V-2451-2 _____ TC Apr s

Westinghouse CB transceiver chassis

V-2451-2 _____ TC Oct s

what the FCC thinks of CB EL Mar 29g

what's the best CB rig? _____ S9 Jan 9g

wipe out vibrator hash _____ PE Dec 41g

COLOR ORGANS

a wall-projection color organ _____ A Mar 19c

A Apr 23c

solid-state 3 channel color organ EW Apr 55c

COMMUNICATIONS

a look at modern diplexers _____ EI Apr 94g

communicating with future deep-space

probes _____ E May 31 28g

communication-satellite-system handover

requirement & associated design problems

RCA Sept 421g

faster digital communications with

duobinary techniques _____ E Mar 22 61g

five years of whistler observations

IEEE Apr 554g

high-speed digital communication networks

EI Jan 96g

improved air traffic communication &

weather nets planned _____ E Jan 4 92g

man's need to communicate-past, present

& future _____ AES Apr 142g

moonbounce problem, 28 Mc. & up

QST Sept 20g

more signals—less space _____ RE Aug 34g

selective calling for two-way radio

EW June 41g

self-verification - needs & methods

EI Feb 92g

simple transistor modulators improve

sideband communications _____ E Mar 8 54g

survey of communications practice on our

high-frequency bands _____ QST Feb 52g

QST Mar 42g

COMPARATOR

problems in designing high-speed

comparators _____ ED Aug 30 40g

COMPONENTS

a new look in printed components

PF Sept 72g

are hot cathodes on the way out?

E June 7 39g

components that learn & how to use them

E Mar 22 49g

designing with optoelectronic components

EI May 102g

encapsulating to military specifications

EI July 92g

magnetic reed switches & relays

ED July 5 54g

negative resistance element (NRE),
a new circuit component **E May 31 21g**
random-motion testing of electronic
components **EE July 82g**

COMPUTERS

analog computer errors **EE Apr 246g**
analog ratio computer uses Hall
multiplier **E Nov 8 46g**
an auto & cross-correlator for digital
information **EE Apr 220g**
binary numbers & Boolean algebra
EW Mar 72g
binary-to-decimal conversion circuit
EE Mar 180g
computers in the front lines **E Jan 4 77g**
demonstration binary arithmetic unit
EE Jan 8g
designing data registers with simple
diode circuits **E Feb 22 48g**
digital readouts **EW Feb 33g**
evaluating worst-case conditions
ED Mar 1 54g
experimental neuristor gives nerve-like
pulse propagation **E Mar 1 25g**
fresh approach to digital circuit
design **ED Nov 22 46g**
high-reliability computers using duplex
redundancy **EI Aug 116g**
high speed analog multiplier
EE Apr 242g
hybrid computer . . . end of an
argument? **EI Dec 38g**
microwave parametric oscillators for
computers **EE Sept 582g**
new counting methods for performing
digital arithmetic **EE Oct 670g**
now a talking computer answers inventory
inquiries **E Aug 16 30g**
on feeding computers from
scalars **EE Dec 801g**
organizing the 'nanophile' computers
ED Mar 1 44g
sensing & control of tape slack
level **EI Dec 65g**
simple electronic analog multiplier
EI Mar 219g
some aspects of a high frequency analog
computer **EE July 439g**
speeding digital data over phone lines
E Sept 27 30g
systematize your design steps **ED Mar 1 62g**
ED Mar 15 66g
technical translations by computer
EI Dec 76g
ultrasonic delay-line store operating at
5Mc digit rate **EE May 308g**
versatile printer for use with digital
instruments **EE Oct 664g**

CONNECTORS

silicone dielectrics improve connectors
EI Apr 99g

CONTROL SYSTEMS

how to analyze a hybrid control system
ED Oct 25 52g
network table for easier control-system
design **ED Aug 16 60g**
smoothing-predicting sampled data
EI Sept 81g
systems analysis: getting around
discontinuities **ED June 7 48g**
take drudgery out of systems analysis with
state-variable techniques **ED Jan 18 78g**

CONVERTERS

all-Nuvistor converter for 420Mc.
QST Jan 11c
anode emission of plasma thermionic
converter **IEEE May 760g**
arc mode of Cesium vapor thermionic
converter **IEEE May 748g**
conduction angle controlled convertor &
voltage stabilizer **EE July 461g**
drift fields in photovoltaic solar energy
converter cells **IEEE May 674g**
emission physics of thermionic energy
converter **IEEE May 733g**
getting maximum efficiency in DC/AC
converters **ED Apr 26 36g**
improving A-D converter accuracy
E Sept 13 38g
new digital conversion method provides
nanosecond resolution **E May 3 55g**
practical design of a DC to DC converter
CQ May 29g CQ June 28g CQ July 22g
pulse width-amplitude convertor
EE Mar 172g
recent research on photovoltaic solar
energy converters **IEEE May 667g**
simple logarator (logarithmic compressor)
PGA Jan-Feb 19g
six meter double conversion converter
CQ Jan 28c
10 meter mobile converter **CQ Aug 23c**
transistor high-frequency converters
QST Mar 38c
transport effects in Cesium thermionic
converters **IEEE May 725g**
two-transformer DC to AC power
convertors **EE Nov 742g**
using the latest semiconductor circuits in
a UHF digital converter **E Aug 30 37g**
versatile negative impedance converter
SP May 25g SP June 27g

COOLING SYSTEMS

basic analysis of liquid cooling systems
ED Aug 16 74g

COUNTERS

- automatic recording equipment for a counter-timer EE Sept 572g
- how to design arbitrary-length binary counters E Dec 27 34g
- novel coincidence technique for transistor decade counter E Feb 15 71g
- the logic of counter-circuits design ED Jan 18 68g
- tunnel-diode transistor circuits simplify counters E Sept 13 64g
- using microcircuits in high-resolution range counters E Nov 22 31g
- why a ring counter - why not a binary? E Jan 25 44g

CRYOGENICS

- cryogenics for the electronics engineer E Aug 30 29g
- novel test techniques measure Q in cryogenic resonant circuits E Feb 22 43g

CRYSTALS

- grinding surplus hermetically-sealed crystals QST Mar 30g
- orientation of cubic semiconductor crystals by X-Ray & optical means SP May 30g SP June 34g
- resonant frequency shifts in crystal vibrators AS Jan 36g

D

DELAY LINES

- electromagnetic delay lines EW Feb 46g
- magnetostrictive delay line store EE Jan 32g
- transistorized delay line frequency divider EE Feb 102g

DESIGN '63

- computers ED Jan 4 50g
- integrated circuits ED Jan 4 32g
- Lasers ED Jan 4 36g
- microwaves ED Jan 4 46g
- reliability ED Jan 4 56g
- space communication ED Jan 4 38g
- transistors ED Jan 4 40g

DIODES

- backward-diode clamp reduces tunnel-diode delays E Feb 8 56g
- diode lamp makes tape readers faster E May 17 44g
- diodes '63 ED Sept 13 41g
- gallium arsenide electroluminescent & Laser diodes SP Aug 34g
- gallium arsenide: what is its status? EI Feb 47g
- high-cutoff-frequency GaAs diffused-junction varactor diodes RCA June 199g
- high-speed transistor-tunnel-diode sequential circuits RCA Sept 355g

- high voltage epitaxial gallium arsenide microwave diodes RCA June 182g
- hot carrier diodes switch in picoseconds E July 19 53g
- how to make diode even more useful E June 7 52g
- improving pulse rise time with snap-off diodes E Feb 15 68g
- microwave diodes—a progress report EI Nov 86g
- modulated infrared diode span 30 miles E Apr 5 38g
- new tricks with diodes RE July 36g
- on the properties of negative immittance EI Sept 86g
- operating X-band tunnel diodes at Q-band E Dec 27 32g
- oscillations in thermionic diodes IEEE May 754g
- putting variable-capacitance diodes to work in tuning circuits ED May 24 48g
- rigorous analysis of harmonic generation using parametric diodes RCA June 214g
- step-recovery diodes for faster high-level wavefronts ED Oct 11 56g
- thin-film P-N junction silicon devices SP July 30g
- tunnel diode detects currents down to 100 Femtoamperes E Apr 5 33g
- tunnel diodes boost TRL speed E May 10 50g
- tunnel diodes-amplifiers working beyond transistor capabilities E June 21 68g
- tunnel diodes - logic & switching circuits E July 5 26g
- tunnel diodes - mixer & converter circuits E June 28 60g
- tunnel diodes - using them as sinusoidal generators E June 14 36g
- tunnel diodes saves parts continuous readout of magnetic cores E Sept 6 38g
- tunnel resistor-new device to speed up tunnel diodes E July 12 42g
- versatile point-contact diode E Jan 4 82g

DISTORTION

- distortion and what you can do about it HR Nov 43g
- harmonic distortion—tests & measurements A Oct 38g

E

EDUCATION

- electronic teaching aids RE June 52g
- motion pictures, television & education MP Apr 279g
- television as a means of instructional communication AS Mar 145g

ELECTRONICS

- consumer electronics E May 3 49g
- E May 10 52g E May 17 46g
- hi-fi & electronics in Japan ... A Mar 41g

EQUALIZATION

- key to designing attenuation equalizers
- ED Feb 15 94g ED Mar 15 84g

F

FEEDBACK

- cathode feedback nomo RE July 23d
- effects of practice & feedback on frequency discrimination AS Oct 1511g
- emitter to emitter feedback EE Nov 736g
- FM feedback stabilizes airborne solid-state VHF transponder ... E Dec 66g
- modifications in the properties of linear amplifiers due to linear feedback EE Oct 651g
- negative-feedback nomogram ... EW Dec 31d
- one-stage scaler needs no complex feedback E Sept 27 32g
- unity-gain buffer acquires precision by feedback E Dec 20 36g

FERRITES

- nonlinear analysis of ferrite-core circuits IEEE Dec 1761g
- switching properties of ferrite cores EE Jan 22g
- what you must know to use ferrites at low frequencies E Mar 1 38g

FILTERS

- calculator speeds filter network design ED Feb 15 90g
- coaxial filters - a practical design technique E Aug 30 35g
- crystal filters for CW reception CQ Feb 37g
- curves for easier filter-response plots ED Nov 8 64g
- designing active tuned filters EI July 158g
- formulae for the wide-band crystal filter EE July 449g
- graphical design of LC filters for DC power supplies ED Jan 18 84g
- how to specify magnetostrictive filters EI Dec 57g
- low-pass audio filters for increased talk-power EW Sept 47c
- note on active RC low-pass filters EE July 458g
- optical decision filter IEEE Aug 1098g
- optimum design of two-pole bandpass filters ED Oct 25 58g
- RC filter chart EW July 25d
- response of RC ladder filters EE Aug 525g
- ripple-filter design chart EW Oct 31d
- survey of high power microwave filters EI Nov 106g

- synthesis of an active Chebyshev filter EI Mar 112g
- transient response of ceramic filters EI Jan 106g
- tunable phase-shift audio filter EW May 48c
- tunable solid-circuit filter suitable for an I. F. amplifier EE Dec 806g

FM

- add stereo to your FM with this simple adapter RE Feb 28c
- FM in the fringes RE Aug 51g
- FM-Stereo reception A Jan 19g
- going multiplex with an adapter RE Nov 44g
- long distance waveguide transmission using frequency modulation EE Jan 2g
- mobile FM-stereo reception ... A Sept 21g
- multipath distortion: menace to FM stereo? RE Feb 42g
- multiplex—two from one FN Sept 221g
- questions & answers on continental reception FN May 869g

FUEL CELLS

- biochemical fuel cell investigations IEEE May 812g
- electrode kinetics & fuel cells IEEE May 820g
- fuel cell research in Europe IEEE May 784g
- low temperature fuel cells IEEE May 806g
- summary of practical fuel cell technology to 1963 IEEE May 795g

G

GENERATORS

- four pulse generator for testing tunnel diode circuits EE Feb 72g
- four step design of diode function generators ED Aug 2 58g
- high speed current pulse generators EE Feb 92g
- how to design solid-state microwave generators E Oct 11 23g
- nonequilibrium ionization in MHD generators IEEE May 774g
- sequence pulse generator saves transistors E Aug 2 44g
- simple pulse generator using silicon four-layer devices EE July 470g
- transistor delay & pulse generator EE Nov 746g
- wide-band voltage controlled square wave generator with linear characteristics EE Sept 595g

GYROS

- improving rate tables for gyro testing EI Sept 72g

H

HEARING

exposure to steady-state noise & impairment of hearing _____ AS Oct 1515g

HEAT SINKS

selecting a suitable heat sink

EW June 46g

this business of heat sinks — A Mar 26g

HIGH FIDELITY

blue print for an audio club A Mar 40g

how hi is fi? _____ E June 14 33g

improving the listening room FN Aug 166g

FN Sept 225g

music all over the house - without

wires _____ RE June 40g

origins of psychoacoustics — HF Apr 44g

prospects for psychoacoustics — HF Apr 48g

suppressing noise in audio systems

A Nov 46g

I

IMPEDANCE

high precision DC level shifter reduces

output impedance _____ E May 3 65g

infinite impedance from a constant-current

source _____ ED July 19 66g

maximum input impedance with field-effect

transistors _____ E Mar 8 44g

simplified audio impedance matching

EW Apr 50c

some thoughts on impedance functions

WW June 295g

INDUSTRIAL ELECTRONICS

CCTV in color _____ PF Nov 36g

contact load multipliers — RE Feb 40g

"Delcotronic" transistor ignition system

EW July 39g

electronics in banking — EW Apr 29g

high-performance transistor ignition

system _____ EW June 30c

industry uses unique test equipment

PF Mar 36g

marketing industrial control

computers _____ EI Dec 32g

microwelding- Laser or electron beam?

E July 5 23g

molecular electronics explained

PF May 50g

now a talking computer answers inventory

inquiries _____ E Aug 16 30g

simple transistor ignition — RE July 24c

transistor circuits in industry PF Nov 68g

transistorized ignition converter

keeping useful parts — PE June 33c

troubleshooting in a small plant

PF Dec 30g

what's different about industrial

electronics _____ RE June 48g

working with electronic engine analyzers

RE Nov 32g

INFRARED

broad spectrum _____ ED Oct 25 32g

detection range prediction for infrared

detection systems — IEEE Oct 1327g

improved checkout for IR detectors

EI Oct 82g

infrared system detects intruders

E Aug 16 26g

photoconductive detectors ED Oct 25 38g

putting infrared to work ED Oct 25 44g

understanding infrared energy PF Oct 26g

INTEGRATED CIRCUITS

integrated semiconductor networks in

electromechanical control systems

SP Oct 15g

what & why of integrated circuitry

RE Oct 34g

INTERCOMS

intercom diode switch analysis EE July 464g

intercoms with all the extras PF Aug 34g

INTERFERENCE

aspects of interference — FN Apr 777g

can RFI control prevent weapons

failures? _____ E Nov 8 43g

eighty meter BCI _____ QST May 17g

FM interference filter — EL Jan 60c

interpreting FCC interference rules

BE Mar 24g

Project interference

CQ Oct 36g CQ Nov 67g

CQ Dec 30g

radio-interference control — E Apr 26 56g

RFI-causes, effects, cures — E June 21 37g

RFI test concepts for complex systems

ED Jan 4 58g

tracing television interference BE Aug 14g

two-way radio interference problems

TC Nov 48g

INTEGRATORS

an A.C. integrator — EE July 444g

INVERTERS

designing series SCR inverters

ED June 7 52g

ED June 21 62g ED July 5 48g

quasi-square waveform drives high-

efficiency static inverter — ED Sept 13 78g

K

KLYSTRONS

phase-locked klystrons simulate Doppler

radar _____ E Apr 19 44g

secondary emission makes klystron tubes

self quenching _____ E Oct 18 40g

L

LAMPS

- designer's guide to illuminated switches
EI Jan 162g
- designer's guide to indicating lights
EI Jan 151g
- designer's guide to lamp selection
EI Jan 140g

LASERS

- active region in visible-light diode Laser
E Mar 1 35g
- advances in Lasers _____ SP Aug 25g
- designing Lasers with pump-power
charts _____ E Dec 27 23g
- energy & power in Lasers _____ IEEE Dec 1723g
- gaseous, liquid & semiconductor junction
types _____ WW Sept 426g
- gatling-gun Laser: novel approach to
optical radar _____ E Sept 20 25g
- here comes the Laser _____ RE Jan 28g
- how rare earth chelate Lasers
work _____ E Nov 15 67g
- injection Lasers: state of the art
_____ E Dec 6 61g
- Laser status report _____ PE July 33g
- Lasers - general principles WW Aug 370g
- Lasers - special report _____ ED Aug 2 34g
- measuring Laser output with RAT's nest
calorimeter _____ E Feb 1 36g
- new developments in Laser weapons
_____ EI Nov 78g
- photographic studies of mode &
polarization phenomena in ruby Lasers
_____ MP July 534g
- pulse power supply design for Laser
pumping _____ E Dec 20 33g
- simple, economical Laser demodulation
_____ EI May 107g
- the Laser _____ IEEE Jan 4g

LOGIC

- binary-code conversion using NOR logic
units _____ EE May 305g
- charge controlled nanosecond logic
circuitry _____ IEEE Sept 1215g
- distributed logic memory for information
retrieval _____ IEEE June 924g
- high speed integrated circuits with load-
compensated diode-transistor logic
_____ E Mar 15 68g
- logical approach to logic circuits
_____ EI May 110g
- novel method simplifies translator design
_____ ED Mar 15 80g
- pulse counting & scaling by Sheffer
stroke logic _____ EE May 296g
- put more snap in logic circuits with
field-effect transistors _____ E June 14 43g

- resistor-transistor-backward diode
nanosecond logic _____ SP Mar 17g
- thin magnetic films create logic circuits
_____ E Feb 22 62g
- transistor push-pull logic _____ SP Sept 24g
- trends in logic circuit design E Dec 6 38g
- TURTLE; new logic tailored for
microcircuits _____ ED June 7 42g
- _____ ED June 21 56g

LOUDSPEAKERS

- a fresh approach to compact speakers
_____ A Mar 30g
- add depth to your speaker _____ RE Aug 28c
- build a bookshelf speaker _____ RE Sept 70c
- build the reflectoflex speaker
enclosure _____ PE Dec 47c
- checking loudspeakers by ear EW Jan 57g
- column loudspeaker systems
_____ EW June 25g
- constant directional characteristics
from a line source array _____ AES July 198g
- controlling sound-reinforcement
systems _____ A Dec 19c
- corner speaker fits your home RE Dec 58c
- crossover design _____ A Sept 26g
- _____ A Oct 26g
- design of ceramic loudspeaker
magnets _____ WW July 320g
- directions in loudspeaker design
_____ HR Apr 47g
- full-range electrostatic speaker A June 17c
- get the most from your speakers
_____ HR Aug 36g
- hi-fi enclosure from your old TV
_____ RE Jan 45c
- hi-fi loudspeaker cones _____ EW Feb 38g
- how to add extension speakers HR Aug 42g
- how to build the paraline speaker
_____ FN Apr 782c
- improving the hi-fi bottom _____ RE May 49g
- loudspeaker measurements in live
rooms _____ AES July 203g
- loudspeaker testing in reverberant rooms
_____ PGA Mar-Apr 34g
- make room for speakers _____ PF Feb 48g
- open baffle parallel-series array A Dec 30c
- simple quality rating system for
loudspeakers & audio systems
_____ AES July 263g
- simple speaker measurements RE Sept 37g
- slim silhouette speaker systems
_____ PE July 41g
- speaker buying _____ HR Aug 31g
- speakers - past, present & future
_____ HF June 37g
- thin loudspeaker systems _____ EW Sept 30g
- 3 speaker enclosures _____ HR Aug 45c

M

MASERS

- Holium doped calcium fluoride as a Maser material IEEE Jan 53g
- Masers & millimeter waves IEEE Jan 115g
- Masers & parametric amplifiers in radio astronomy IEEE Jan 30g
- modes in a Maser interferometer IEEE Jan 80g
- nonconfocal multinode resonators for Masers IEEE Jan 70g
- optical pumping of microwave Masers IEEE Jan 185g
- quantum & semiclassical radiation theories IEEE Jan 89g
- semiclassical treatment of the optical Maser IEEE Jan 76g
- uranium doped calcium fluoride as a Maser material IEEE Jan 56g
- Zeeman effects in gaseous He-Ne optical Masers IEEE Jan 63g

MATHEMATICS

- an electronic root solver EE Jan 16g
- high-speed arithmetic employing tunnel diodes RCA Mar 47g
- mathematical models for engineers EI Sept 39g
- useful mathematical approximations EI Sept 89d

MEASUREMENTS

- accurate audio frequency measurements EW Aug 46g
- calibration laboratory . . on wheels EI Feb 184g
- dynamic null - new method for measuring equipment performance E Mar 15 78g
- easy ways to make microwave phase measurements E Mar 8 50g
- getting subnanosecond precision in coax cable delay measurements E Feb 1 39g
- improving the accuracy of R-F voltage measurements EI July 87g
- program on the accuracy of electrical measurements IEEE Apr 569g
- spectrum signature measurements ED Mar 15 52g ED May 24 43g
- ED July 19 72g
- sweep measurements making the tough ones easy E Apr 19 52g
- technique for phase-angle measurement EE Feb 104g

MEDICINE

- advances in electron microscopy EW July 21g
- designing a simple telemeter for medical research E Jan 25 47g
- electric shock on purpose EW Feb 29g
- electrical thermometer EE May 313g

- electronic anesthesia EW Sept 27g
- electronics in neurophysiology WW Oct 521g
- foetal heart monitor EE Feb 83g
- muscle voltage moves artificial hand E Oct 11 34g
- nerve stimulator PE Jan 51c
- servo tracks pill in human body E Mar 22 58g
- transistor AC regulator for X-Ray tube current EI May 121g
- transistorized double-pulse stimulator for use in neurophysiology EE Sept 586g
- ultrasonics & dentistry S Mar-Apr 15g

MEMORIES

- all-magnetic content addressed memory EI Mar 92g
- associative memories ED Feb 1 40g
- how to quiz a whole memory at once E Nov 15 43g
- laminated ferrite memory RCA Dec 705g
- plated holes simplify memory design E Nov 1 34g
- semipermanent memory latest use for twistors E Mar 15 80g
- superconductive associate memories RCA Sept 325g
- what's new in computer memories E Nov 8 35g

METERS

- 25 things to know about panel meters ED Apr 26 44g

MICROCIRCUITRY

- constraints in designing integrated circuits ED Feb 15 66g
- development of thin film resistors & capacitors for microcircuitry EE Sept 588g
- engineering a microcircuit module EE Oct 676g
- integrated circuits can be breadboarded ED Feb 15 76g
- nanowatt power, how low is low? ED Feb 15 60g
- optical coupling: new approach to microcircuit interconnections E Nov 22 23g
- preparation of evaporated micro-circuits EE July 430g
- saving microcircuit power with tunnel-diode coupling E Aug 23 30g
- small circuits create big problems ED Feb 15 52g
- TF amplifier, a dark horse? ED Feb 15 62g
- thin-film & solid-state, a marriage in the making? ED Feb 15 46g
- who's making what & how ED Feb 15 50g

MICROELECTRONICS

- choosing logic for microelectronics E Oct 4 23g

impact of microelectronics **E June 28 51g**
 microelectronics around the world
 E Aug 2 37g
 microelectronics - generalization
 EW Jan 31g
 packaged microelectronic circuits
 EI Jan 114g
 reliability vs tolerances in microelectronics
 IEEE Sept 1202g
 thin-film approach **RE Nov 38g**

MICROMINIATURIZATION

advances in microminiaturization
 E Feb 15 45g
 story of microminiature in today's
 electronics **PE Mar 47g**
 uses of photomechanical processed in the
 manufacture of micro-miniature circuits
 EE Aug 520g

MICROPHONES

audio-bility with dynamic mikes
 S9 July 18g
 choosing & using a microphone
 TR Mar 21g
 condenser microphone for the amateur
 FN Feb 622g FN Mar 685g
 electrostatic microphones with electret foil
 AS Sept 1354g
 factors in choosing a microphone
 CQ Jan 42g
 microphone filter **BE June 24c**
 microphones **EL Jan 48g**
 new low-noise transistor circuit for
 electrostatic microphones **WW Dec 593g**
 professional condenser microphone
 A July 17c
 put your mike on a stand **TR Apr 31g**
 statistical detection of errors in
 microphone calibrations **AS Jan 108g**
 stereo condenser microphone
 FN Sept 238c FN Oct 339c
 transistorized stereo microphone mixer
 A Oct 19c

MICROWAVES

basic & applied studies of field emission at
 microwave frequencies **IEEE July 991g**
 experimental research on the behavior
 of passive repeaters **IEEE Nov 1423g**
 generator for one-millimeter waves
 E Aug 16 21g
 many phases of microwave design
 ED May 10 40g
 microwaves—a market in transition
 EI Nov 58g
 PIN diode: versatile microwave component
 E Mar 8 40g
 precision method for the measurement of
 frequency modulation deviation &
 its application to microwaves **EE Mar 144g**

resonant-cavity tuning now made easy
 E Jan 18 46g
 versatile microwave link **EE Jan 12g**

MILLIMETER

Masers & millimeter waves **IEEE Jan 115g**
 new millimeter components & techniques
 E Jan 11 33g
 traveling-wave tube, wide-band
 microwave amplifier **QST July 35g**

MODULATION

designing wide pulse-width modulators
 EI Mar 109g
 grid modulation, theory & techniques
 BE June 28g
 hard look at soft-tube modulators
 ED Oct 11 52g
 new modulation technique simplifies
 circuits **E Jan 25 52g**
 new phase-tracking demodulator will not
 lock on sidebands **E Feb 8 52g**
 notes on the theory of modulation
 IEEE June 893g
 pulse-width modulator offers precision
 performance **E Oct 11 29g**
 three new approaches to pulse
 modulation **E May 3 62g**
 threshold criterion for phase-lock
 demodulation **IEEE Feb 349g**
 transmission line for broadband light
 modulators **IEEE Jan 132g**
 traveling-wave phase modulator
 IEEE Jan 147g

MULTIVIBRATORS

cathode-coupled astable multivibrator
 EE May 325g
 crystal-controlled multivibrator has better
 stability **E Apr 12 60g**
 designing NRE monostable multivibrators
 E Sept 13 34g
 frequency controlled magnetically coupled
 multivibrator **EE Mar 166g**
 improved multivibrators **EE May 328g**
 latest multivibrator improvement: linear
 voltage-to-frequency converter
 E Apr 26 64g
 magnetically coupled multivibrators
 E Mar 29 42g
 new flip-flop design improves efficiency
 EI Mar 107g
 using a new component: the NRE as a
 free-running multivibrator **E July 26 50g**
 variable frequency multivibrator
 EI Feb 101g

MUSICAL INSTRUMENTS

an all-electronic method for tuning
 organs & pianos **A Feb 28g**
 A May 20g
 electronic organ tuning made easy
 RE July 58g

response of windows to random noise	S May-June 31g
suppressing noise in audio systems	A Nov 46g
what to do about cooling-tower noise	S Sept-Oct 32g

November-December, 1963

simple circuits measure FET parameters
E Aug 23 34g

PHONOGRAPHS

analyzing automatic changer mechanisms
PF Aug 1g
on the damping of phonograph arms
AES July 207g
Philco stereo phonograph Model L-1532
TC Jan 8
Philco hi-fi stereo phonograph model L-1650
TC Feb 8
RCA record player series 4VC6 & 4VC8
TC Aug 8
replacing the phono needle — PF Aug 32g
transient response & intermodulation
studies in phonograph reproduction
AES Apr 110g

PHOTOGRAPHY

automatic slide programmer EL July 72c
automatic threading mechanism for
16mm sound projector — MP Feb 87g
battery eliminator for flash guns
PE Jan 54c
cameras that think — RE Jan 24g
capacitor former for electronic flash
units — EW Dec 54c
ektachrome original film processing
MP Jan 27g
electronic darkroom thermometer
RE Oct 60c
give your slides a voice — TR June 30g
horizontal projection of 16mm film with
two tracks of half-size 16mm film pictures
& with optical sound — MP Feb 82g
just plain flash — RE May 24c
multiple 8mm magnetic sound printer
MP Jan 24g
new fast-opening, large aperture shutter
for high-speed photography MP July 531g
oscilloscope photography in industry
EW Mar 53g
pitfalls of color densitometry MP Feb 97g
proposal for double 8 film with single
row of perforations — MP Feb 85g
super strobe — EL May 58c
tape control your slides — TR Mar 17c
"ZJ" photoflash slave — PE June 39c

PICKUPS

case of the tilted stylus — HF May 34g
compliance & tip mass — FN Mar 689g
home-made transcription pickup arm
FN June 32g
pickup problems, stylus size FN Feb 619g
side-thrust: its cause & effects FN Apr 797g
solving an awkward pickup hum problem
FN Sept 235g
stylus mass & distortion — WW Apr 171c

stylus mass & reproduction distortion
AES Apr 104g
towards the perfect pickup FN May 879g
tracking error — FN Jan 541g
two-gram phonograph pickup system for
home record changers — AES Oct 340g

PLASMA

characteristics of a Cesium plasma
cell — IEEE May 769g
spectrum of electromagnetic waves guided
by a plasma layer — IEEE Feb 317g

POWER

combining power level in Db ED Jan 4 62g

POWER SUPPLIES

bistable circuit for overload protection
of power supplies — EE Nov 748g
controlled rectifiers in stabilized power
supplies — WW Oct 480g
controlled rectifiers in voltage-regulated
power supplies — WW Feb 56g
current stabilized power supply using a
magnetic modulator as a current
comparator — EE Mar 151g
diode power supply calculations
CQ Sept 44g
fast-acting protective circuit for stabilized
multi-voltage transistor power supplies
EE Jan 38g
graphical design of LC filters for
DC power supplies — ED Jan 18 84g
hybrid bridge power supplies
EW June 82c
inexpensive power supply for a kilowatt
linear — QST Aug 22c
low-cost transistor regulated power
supply — RE July 48c
new device simplifies power supply
design — E May 17 39g
117 volt 60 cycle mobile power
supply — CQ Dec 32c
overload protection of transistor regulated
power supplies — WW Aug 409c
overload protection without high power
dissipation — E Mar 29 36
power supply filter — CQ July 47g
reducing ripple in regulated supplies
EI Dec 63g
regulated transistorized power supplies
EW Mar 40g
speaking of transistorized power supplies
ED Mar 15 58g
switching mode current stabilizer
EE Mar 174c
transistor power supply — BE Sept 36c
transistor-safe power supply RE Jan 32c

PRINTED CIRCUITS

making etched circuit boards
EW June 38g

PROPAGATION

- an approach to tropospheric duct propagation **IEEE Nov 1481g**
- electromagnetic wave propagation over natural obstacles **RCA Mar 105g**
- H. F. propagation in 1962 — **WW Feb 67g**
- propagation path: key to antenna selection **ED Dec 20 44g**
- recent tests show tropo scatter better than believed **E Mar 1 42g**
- TE propagation - VHF discovery extraordinary **QST Apr 11g**
- wave propagation in nonlinear electromagnetic media — **IEEE Jan 124g**

PUBLIC ADDRESS

- constant-voltage sound-distribution systems **EW July 29g**
- custom built church amplifier **RE Oct 37c**
- installing PA systems **TC Feb 26g**
- profits from PA systems **PF Oct 54g**
- simplified frequency shifter for improving acoustic feedback stability **AES July 234g**

Q

QUANTUM DEVICES

- see Masers & Lasers
- how they work **EW Dec 39g**

R

RADAR

- coherent laser pulse-Doppler radar **IEE Jan 202g**
- designing radar receivers to overcome jamming **E May 17 50g**
- detection of chirped radar signals by electron spin echoes **IEEE Aug 1127g**
- fast AGC amplifier locks monopulse radar on target **E Sept 27 34g**
- how coded-pulse techniques extend radar range **E Nov 22 34g**
- how computers align phased-array radars **E Nov 15 29g**
- how to get more power from SCR radar modulators **ED Sept 13 46g**
- more target data with sideband coherent radar **E Jan 18 40g**
- phase-locked klystrons simulate Doppler radar **E Apr 19 44g**
- probability of detection for targets **IEEE Apr 596g**
- pulse compression system — **IEEE Feb 304g**

RADIATION

- detection of nuclear radiation by semiconductors **EW Aug 39g**

detection of sub-mm radiation

IEEE Nov 1412g

diode resistance to nuclear radiation

EI Aug 134g

effects of radiation on electronic components

EW July 76g

surface effects of ionizing radiation

E Oct 4 34g

RADIO CONTROL

8-channel radio-control receiver

RE July 30c

radio control of model airplanes

QST Sept 11c

REACTANCE

inductive & capacitive reactance

EI Jan 130d

RECEIVERS

add-on S meter **PE Feb 48c**

Airline AM/FM console models WG-2313A,

43A, 73A, BB, 43B, 73B **TC Apr s**

Airline clock radio model GTM 18 27A

TC Oct s

Airline radio chassis Model

GEN1731A **TC June s**

AMATEUR

adding versatility for the HBR-16

QST Jan 36c

automatic gain control for C.W.

reception **QST July 22g**

compact receiver for the CW man

CQ Sept 22c

considerations in receiver front-end

design **CQ July 45g**

converting your first command

receiver **PE June 45c**

crystal super calibrator **PE Nov 51c**

50Mc double-conversion transistor

receiver **QST July 24c**

full-band V.H.F. coverage with

amateur bandspread receivers

QST June 40c

HBR-8 becomes the HBR-11

QST Apr 37c

HBR-8 communications receiver

QST Mar 11c

how to fight your image battle

QST Dec 18c

improving the CW selectivity of the

Collins 75A-4 **QST May 55c**

new approach to receiver front-end design

QST Sept 31g

product detector for the HQ-129X

CQ Apr 36c

signal checking with

phone-bandwidth receivers **QST Dec 62g**

solid-state fixed-tuned receiver

CQ July 20c

TDCS communications receiver
QST Oct 41c QST Nov 14c
 transistor audio system with squelch
 control _____ **QST Feb 38c**
 2-meter simple superhet _____ **PE Sept 43c**
 unique CW, SSB & FSK receiver
CQ June 24c
 upgrading inexpensive receivers
CQ Nov 68c
 an AM-FM car radio _____ **EW Mar 44g**
 better superhets for sideband reception
E May 10 39g
 boost box for transistor _____ **PE May 58c**
 Delco Buick auto radio Model
 980655 _____ **TC Dec s**
 Delco auto radio Cadillac model 7286315
 _____ **TC Oct s**
 Delco Buick model 980464 _____ **TC Apr s**
 Delco Chevrolet radio model 985431
 _____ **TC Mar s**
 Delco Oldsmobile model 9821137 **TC Sept s**
 directory of importers & manufacturers of
 Japanese transistor radios **EW May 38d**
 Emerson Stereo radio-phonograph
 Model P-1913 _____ **TC June s**
 fail-safe squelch circuit adapts to changing
 noise levels _____ **E Jan 4 88g**
 first details on Mercury spacecraft command
 receiver _____ **E Feb 1 32g**
 fitting a wide-band signal into a
 narrow-band receiver _____ **E Mar 8 47g**
 General Electric radio model P970A
 _____ **TC Sept s**
 multiband receivers with alignment
 faults _____ **PF Dec 34g**
 music/speech discriminator _____ **EW Apr 36g**
 new technique protects receivers from high
 power _____ **E Mar 1 32g**
 one receiver, all bands, thanks to
 plug-in coils _____ **PE Jan 39g**
 Philco transistor portable Model T-909
 _____ **TC Dec s**
 rapid evaluation of complex receiving
 systems _____ **E Feb 1 44g**
 RCA radio chassis RC-1214A _____ **TC July s**
 RCA stereo hi-fi models 4VF606
 & 4VF705 _____ **TC Dec s**
 receiver with transistors & tubes
 _____ **A Feb 21g**
 servicing 1963 Delco AM-FM auto radio
 _____ **RE Oct 42g**
 simple transistor portable **WW May 206c**
 some recent developments in the Audion
 receiver _____ **IEEE Aug 1083g**
TELEVISION
 Admiral color TV chassis 24A2, UA2, B2,
 UB2, C2, UC2, D2, UD2, UE2-run 10
 _____ **TC Sept s**

Admiral TV chassis 16A4D,-C,
 UA4D, -C, -B4C, UB4C _____ **TC Dec s**
 Admiral TV chassis 16F3B model
 93F16 _____ **PF Apr 3g**
 Admiral TV chassis Models 19K3U, -M3U,
 -T3U, run 13
 _____ **TC Oct s**
 Admiral TV chassis 21X3U **PF Sept 1g**
 Airline TV chassis models
 GTM1583A, 2583A _____ **TC May s**
 Airline TV chassis 23S31 _____ **PF May 1g**
 Andrea TV chassis VTT-323-5 **TC Nov s**
 Bradford model 96735A _____ **PF Feb 1 g**
 Clairtone TV chassis S-2 Model ST-801
 _____ **PF Sept 2g**
 Columbia model C-23T6216 chassis
 1056-12 _____ **PF July 1g**
 Coronado Model TV-179444A TV
 chassis 1194-72 _____ **PF Sept 3g**
 Coronado TV chassis model
 TV2-9442A _____ **TC May s**
 Dumont TV chassis 120622-A, 23-B, 44-A,
 88-A _____ **TC Aug s**
 DuMont TV chassis 120633 series 900
 models _____ **TC Jan s**
 DuMont TV chassis 120677-A, 78-B, 79-A,
 84-A, 89-A _____ **TC Oct s**
 Electrohome model Gatewood
 _____ **PF Jan 3g**
 Emerson TV chassis 120587A
 _____ **PF May 2g**
 Emerson TV chassis 120692A **TC July s**
 Emerson TV chassis 36-08, -09 **TC Feb s**
 General Electric model M503XEB
 chassis QX _____ **PF Jan 4g**
 General Electric model PAM203YVY
 chassis LY _____ **PF July 2g**
 General Electric TV chassis MXT
 _____ **TC June s**
 General Electric TV chassis QX, models
 M502XBN, EB, VY, 3XBN EB VY
 _____ **TC Mar s**
 Heath TV chassis model GR-22
 _____ **TC Apr s**
 Magnavox TV chassis 44-01 _____ **TC Oct s**
 Montgomery Ward TV chassis 1078-233,
 -243 1078U233, -243 _____ **TC Feb s**
 Montgomery Ward TV chassis WG-1883A
 _____ **TC Jan s**
 Motorola color TV chassis
 TS-912A _____ **TC Nov s**
 Motorola model 19RT29CH **PF Feb 2 g**
 Motorola TV chassis T8-578 model
 23T17 series _____ **TC Feb s**
 Muntz model 23CP3 _____ **PF Feb 3g**
 Olympic TV chassis NB & NBU
 _____ **TC Nov s**
 Olympic TV chassis 10119 model
 9T22 _____ **PF May 3g**

Panasonic by Matsushita TV model AN-14
PF Apr 4g
Philco Model L2602BR Chassis 13G20
PF Sept 4g
Philco model L-3814RWH chassis 13J42
PF Jan 5 g
RCA TV chassis KCS136YA model
233-B-605RS PF Apr 5g
RCA TV chassis models KCS 143
A & B TC May s
RCA TV chassis KCS147 A & B
TC June s
Silvertone TV chassis 528.60173
PF July 3g
Spartan TV chassis type 19L1 TC Feb s
Sylvania TV chassis 562, -3, -4
models 23E01 TC Jan s
Sylvania TV chassis 563-4 model 19T09
series PF Apr 6g
Symphonic model 23BSC101 PF Jan 6g
Traveler TV chassis Models
GTC-3014A, -B, 4014A, 3114A,
-44A, -54A, 4114A, -51A TC Nov s
Truetone model 2DC1300B, -C chassis
23S35 PF July 4g
Truetone TV chassis 1096-243
TC June s
Truetone TV chassis 2DC1300C, -02C
2DC1301C, -03C TC May s
Western Auto TV chassis models
2DC1300B, 02B, 01B, 03B TC Mar s
Westinghouse model H-P3001U
PF Feb 4g
Westinghouse TV chassis U-2436 TC Jan s
Westinghouse TV chassis V-2444-1, -2, -3,
-5, -6, -9, -10 TC July s
Westinghouse TV chassis
V-2446-1, -2, -3, -4 TC Dec s
Zenith color TV chassis 26KL20, 20QS
TC Apr s
Zenith TC chassis 16K23QS PF May 4g
tunnel diode receiver PE June 62c
VHF adventurer PE Oct 41c
PE Nov 57c PE Dec 61c
Western Auto transistor radio model
DC3438 TC Apr s
Westinghouse radio chassis V-2407-4
TC June c
Zenith transistor radio model Royal 490
TC Sept s

RECORDERS

be sure to pack a tape recorder
HF July 31g
build this electronic mixer TC Apr 27c
build this remote volume control
TR July-Aug 18c
directory of battery operated portable tape
recorders TR Oct 14d

guideposts for selecting a tape recorder
HR Mar 37g
high-quality transistorized tape recorder
amplifier A May 17c
how your recorder works TR Apr 23g
magnetic tape digital time interval recorder
EE Mar 170g
party fun with your recorder TR Jan 18g
repairman stay away from my door
TR June 18g
replace that worn head TR Nov 10g
servicing the battery-operated transistor
tape recorder TR Oct 8g
tape-deck preamp EW Feb 90c
tape recorders yield to a direct approach
PF Aug 38g
Telectro tape recorder model MM-214
TC Aug s
Western auto tape recorder 4DC7465
TC Aug s
what you can do about magnetic head
wear TR Jan 24g

RECORDING

analysis & evaluation of piano recordings
HR Sept 39g
analysis of the magnetic circuit of
multitrack record & playback
heads PGA July-Aug 127g
application of information theory to
recording systems PGA Jan-Feb 3g
capturing the melodies of birds TR Mar 28g
compensation for tracing & tracking error
AES Oct 318g
discussion & applications of electrostatic
signal recording RCA Sept 406g
electron cloud head for reproduction
of tape recording PGA July-Aug 138g
15-deg. vertical angle-a key to better stereo
sound A Nov 21g
further thoughts on geometric conditions
in the cutting & playing of stereo disks
AES Jan 6g
how to record choral groups TR May 28g
how to record dramatic skits TR Feb 20g
intermodulation distortion in tape
recording AES July 270g
phase distortion in a magnetic tape
recording system EE Aug 536g
program-level overloading & equalization
in phonograph recording AES Jan 24g
reciprocity principle in the theory
of magnetic recording IEEE Nov 1573g
recording vocals with piano
TR June 22g
study of field around magnetic heads
of finite length PGA Jan-Feb 21g
study of program-level overloading in
phonograph recording AES Jan 16g

theoretical treatment of self-demagnetization
in magnetic recording **PGA** May-June 81g
theories of AC bias used in magnetic tape
recording **PGA** May-June 78g
unified analysis of tracing &
tracking error **PGA** July-Aug 141g
vertical tracking distortion in practice
A Sept 40g
vertical tracking improvements in stereo
recording **A** Feb 19g

RECORDS

dirt on discs **FN** Mar 683g
FN Apr 791g
must stereo discs sound bad
EW July 42g
78-rpm stereo record **A** Apr 32g
short guide to test records **HF** Dec 48g
study of tracking-angle errors in stereodisk
recording **PGA** Mar-Apr 56g
tracing distortion—its cause and correction
in stereodisk recording systems
AES Oct 294g
tracking distortion as phase modulation
PGA Mar-Apr 41g
vertical tracking problem in stereophonic
record reproduction **PGA** Mar-Apr 47g

RECTIFIERS

how to trigger SCRs sequentially
ED Sept 27 52g
how to use silicon rectifiers **EL** Jan 100g
more reliability with controlled avalanche
rectifiers **E** Mar 29 38g
new way to use saturable reactors:
stabilizing high-power rectifiers
E May 24 62g

replace them with silicons **RE** Aug 54g
selecting the proper high-voltage rectifier
ED Sept 13 52g
silicon controlled rectifiers **WW** Sept 459g
silicon controlled rectifiers - new
applications in the home **EW** Oct 27g

REGULATORS

hybrid current regulator covers wide
range **ED** June 21 48g
transistor voltage regulator **EW** July 74c
transistor voltage regulator with inherent
short-circuit protection **EE** Feb 106g

RELAYS

extending relay release time **EE** Nov 731g
building reliability into space instruments
EI Oct 98g
simple decimal to binary decoder using
relays **EE** Apr 232g
will neon photoconductors replace
relays in low-speed logic?
E May 10 46g

RELIABILITY

building reliability into space instruments
EI Oct 98g

choosing the best method for a
variability analysis **ED** Nov 8 39g
how a Monte-Carlo analysis optimized
a circuit **ED** Nov 8 54g
improving semiconductor reliability
EI Feb 110g
let's look at the mission profile
ED Apr 26 50g
maintainability, the other side of the
reliability coin **ED** Dec 6 38g
reliability, democracy & man in systems
IEEE July 1005g
reliability predictions for repairable
redundant systems **IEEE** Feb 312g
reliability slide rule **E** Sept 6 44d
reliability tradeoff **ED** May 10 74g

RESISTORS

fixed resistors **EW** Sept 44g
how important are resistor tolerances?
ED Mar 29 44g
parallel-resistor chart **EW** Nov 31d
power dissipation in resistors or
transistors **RE** Aug 31d
resistor power calculator **EW** June 37d
resistors for precise temperature
measurements **EI** July 97g
resistors: with more than one job
PF May 20g

RUBY

characteristics of giant pulsations from
ruby **IEEE** Jan 46g

S

SATELLITES

communications system for 'Apollo'
EI Oct 108g
design of satellite tape recorders after Tiro's
MP Oct 787g
eavesdropping on satellites **PE** Feb 52g
first color facsimile transmitted by
satellite **E** May 24 51g
inside the orbiting geophysical laboratory
E Feb 15 61g
OSCAR II: a summation **QST** Apr 53g
OSCAR III V.H.F. translator satellite
QST Feb 42g
Project Apollo's command & control
EI July 58g
Project Telstar - communications
experiment **MP** Feb 91g
Scout-vehicle aerodynamic-noise
measurements **S** Sept-Oct 28g
system organization for general
communication via medium altitude
satellites **RCA** Sept 293g
Telstar II **WW** July 344g
Telstar revived **EI** Feb 74g

SEMICONDUCTORS

- & solid-state bibliography — SP Jan 32d
- SP Feb 31d SP Mar 43d SP Apr 46d
- SP May 48d SP June 41d SP July 36d
- SP Aug 51d SP Sept 34d SP Oct 33d
- SP Nov 34d SP Dec 45d
- chemical polishing of silicon RCA Dec 488g
- demodulation of optical signals with
semiconductors — IEEE Jan 140g
- designing reliability into semiconductor
circuits — E Apr 12 62g
- detection of surface conversion on
Germanium — SP Mar 28g
- diameter correction factors for the
resistivity measurement of semiconductor
slices — SP Feb 26g
- domestic replacements for foreign
semiconductors — EW July 26d
- elastic constants of compound
semiconductors - ZnS, PbTe, GaSb
AS Feb 215g
- electron beam processing of
semiconductor devices — SP Dec 34g
- epitaxial deposition of silicon RCA Dec 511g
- epitaxial deposition of silicon
& germanium layers — RCA Dec 523g
- epitaxial growth from the liquid
state — RCA Dec 603g
- epitaxial growth of gallium arsenide
using water vapor — RCA Dec 585g
- etching of Germanium substrates
RCA Dec 473g
- gas phase equilibria in the
system GaAs- I_2 — RCA Dec 596g
- growth of Germanium epitaxial
layers — RCA Dec 499g
- growth of single-crystal gallium
arsenide layers — RCA Dec 555g
- Hall effect — EW Apr 39g
- hermetic-seal leak detection in
semiconductor devices — SP Feb 19g
- highlights of small-signal circuit
design — E Dec 6 46g
- high-power epitaxial silicon varactor
diodes — RCA Dec 616g
- homogeneous semiconductors, a new
generation of devices — E June 21 65g
- how to achieve majority & threshold
logic with semiconductors E Nov 29 23g
- improving semiconductor reliability
EI Feb 110g
- metallographic polishing techniques for
semiconductor components — SP Oct 27g
- method for measuring impurity
distributions in semiconductor
crystals — IEEE Nov 1631g
- microwave techniques in the study
of semiconductors — IEEE Nov 1623g

- new technique for measuring the
resistivity of individual semiconductor
dice — SP Feb 23g
- power & control circuits — E Dec 6 51g
- radioisotopes in semiconductor science &
technology — SP Oct 22g
- SP Nov 23g
- raising tank-circuit Q with the NRE
E Oct 4 30g
- semiconductors integrated circuits
WW June 292g
- semiconductor strain gages EW July 36g
- simple tests for semiconductors EW Dec 36g
- surface wetting & alloying in semiconductor
device fabrication — SP Feb 15g
- SP Mar 23g
- thermal evaporation techniques SP Dec 23g
- transport of gallium arsenide RCA Dec 574g
- vapor-phase synthesis & epitaxial
growth of gallium arsenide RCA Dec 546g
- SERVICING**
- AM-FM auto sets are here — PF July 26g
- analyzing automatic changer mechanisms
PF Aug 1g
- are you selling your share of the battery
market? — TC Apr 48g
- audio circuit—simple? — PF Sept 36g
- automatic noise circuit defects can fool you
TC July 46g
- bars & stripes in rasters — PF Apr 36g
- beware the vertical creep — PF Oct 38g
- boosting sensitivity in transistor portables
PF Feb 36g
- caddy guide for color TV servicing
PF Nov 88g
- CB transceiver maintenance — TC Jan 28g
- chasing intermittent sweep — PF Sept 42g
- color TV roundup — RE Dec 32g
- color TV service is simple — RE Dec 39g
- disassembling motorized TV tuners
PF Feb 34g
- do-it-yourself TV repairs — RE Aug 26g
- electronic ignition — TC Oct 52g
- electronics in the 'Continental Manner'
TC Nov 40d
- eliminate that hum — TC Sept 46g
- equipment for the one-man shop
TC June 43g
- fix that sync trouble fast — TC Jan 36g
- flyback or yoke? — TC Dec 40g
- focusing on the trouble — PF Jan 26g
- guide to phono-tape charges PF Aug 54g
- handling 'while-you-wait' service
PF June 55g
- harmonic voltages in complex
waveforms — TC May 42g
- how to handle UHF — RE Mar 42g
- how to strip & solder cables — PF Apr 40g

improve your sound & TV quality
RE Apr 46c

insurance for the retail TV shop
TC July 40g

is an old TV worth repairing? PF Oct 36g

is that pic tube really gone?
RE July 26g

is the cartridge shot? PF Aug 22g

just a tube . . . after all PF Dec 28g

keep your scope linear RE Apr 64g

know your '63 color circuits PF Jan 32g

PF Apr 34g PF May 32g PF Sept 38g

know your 64 color circuits PF Nov 1g

L & C measurements with standard
equipment TC May 52g

let's analyze troubleshooting PF Nov 34g

locating IF regeneration PF July 28g

make room for speakers PF Feb 48g

mixed waveforms & your scope
RE Jan 46g

monitoring helps spot intermittents
PF Aug 30g

more visual symptoms tell a story
PF May 29g

picture tube identification &
interchangeability TC May 53g

repair & improve your scope PF July 48g

repairing transistor amplifiers TC Apr 42g

replacement controls TC May 39g

replacing the phono needle PF Aug 32g

replacing your first color TV tube
RE Dec 28g

ringing checks for sweep coils PF Mar 30g

sampling demodulators for FM
stereo TC Dec 54g

scoping common-cathode horizontal AFC
PF Aug 36g

selling & installing UHF-TV TC July 36g

sensible parts stock for transistor radios
PF Sept 52g

servicing AC-DC radios at a profit
TC Dec 48g

servicing broadcast & multiband transistor
radios TC Apr 39g

servicing hand-held C B transceivers
TC Aug 51g

servicing 1963 Delco AM-FM auto radios
RE Sept 40g

servicing sound movie projectors
RE Oct 29g RE Nov 41g

servicing the battery-operated transistor tape
recorder TR Oct 8g

servicing 'tough-dog' oscillation &
regeneration problems TC Mar 46g

servicing transistor amplifiers in hybrid
auto radios TC Aug 74g

servicing transistorized AM/FM
auto radios TC Dec 35g

servicing two-way mobile transmitters
TC Jan 24g

simplified TV waveform analysis
TC June 34g

scope skills PF Mar 34g

small appliances . . . a service sideline
PF Feb 22g

solve your own vision problems
TC June 50g

solving TV sound & alignment problems
TC Feb 34g

special equipment speeds servicing
PF May 38g

speed color setup & service RE July 42g

stock guide for radio & hi-fi tubes
PF Dec 32d

substituting deflection yokes TC Aug 44g

take a closer look at the control grid
TC Feb 30g

tape recorders yield to a direct approach
PF Aug 38g

test transistors in-circuit RE Oct 40g

tips for repairing portables TC June 37g

tolerance calculator EW May 25d

transistor radio repair techniques
TC Apr 36g

transistorized garage-door openers
build profits PF June 32g

troubleshoot transistors by current drain
PF June 30g

troubleshooting analysis by charts
PF Dec 1g

troubleshooting preamplifiers TC Sept 40g

tuner repairs made easy PF May 28g

tuning HF transmitters PF Feb 32g

TV B+ problems TC May 43g

TV flyback replacement problems
TC May 36g

TV fuse stock guide PF July 34d

TV horizontal & HV repairs TC Jan 40g

two-way radio expedites service PF Jan 50g

understanding & servicing stereo multiplex
equipment TC Sept 36g

understanding color TV signals
TC Aug 33g

unscrambling horizontal-AFC problems
PF June 28g

unscrambling TV vertical sweep
puzzles TC Dec 46g

unsuspected cause of TV color failure
RE Feb 50g

unusual faults in filament circuits
PF Jan 34g

unusual squelch troubles RE Apr 27g

versatile neon tester TC Aug 41g

vertical problems vs convergence PF Nov 52g

watch out for transients RE Apr 28g

watch out for twistlers PF Oct 34g

when replacement parts don't quite fit
 PF Sept 34g
 you can service transistors with a VOM
 PF Mar 48g
 your VTVM is a valuable tool
 TC June 46g

SIDEBAND

better superhets for sideband
 reception _____ E May 10 39g
 heterodyne converter for 6 meters, SSB
 CQ June 36c
 high-quality speech compressor
 QST Feb 19c
 military radio is swinging to SSB
 E Apr 5 29g
 on a problem in single-sideband
 communications _____ RCA Sept 391g
 pentagrid mixers for S.S.B. exciters
 CQ May 43g
 sideband on six _____ CQ Mar 71c
 simple sideband for six _____ QST Apr 15c
 simple transistor modulators improve
 sideband communications _____ E Mar 8 54g
 single sideband simplified _____ EW Feb 52g
 S.S.B. with an AN/ART-13 QST Oct 27c
 tuned-circuit temperature
 compensation _____ QST Dec 24c
 two band mobile S.S.B. transceiver
 CQ Jan 31c
 two meter transverter _____ QST Sept 28c
 W4JWV S.S.B. exciter _____ QST Jan 15c

SOLAR ENERGY

drift fields in photovoltaic solar cells
 IEEE May 674g
 recent research on photovoltaic solar
 energy converters _____ IEEE May 667g
 thermo-photo-voltaic energy conversion
 IEEE May 694g

SOLID-STATE DEVICES

analysis of the gain bandwidth
 limitations of solid-state triodes
 RCA Dec 627g
 coherent light detection in photodiodes
 IEEE Jan 166g
 developing true solid-state static
 alternators _____ E May 24 58g
 gate turn-off - unique solid-state switch
 E Apr 26 60g
 latest advances in touch control
 EW May 34g
 micropower circuits - new frontier in solid
 state _____ E July 19 47g
 new look at negative-resistance devices
 E Mar 8 35g
 piping of liquids & gases in the
 solid-state industries _____ SP June 22g
 S-Band paramp approaches noise-figure
 minimum _____ E June 28 57g

solid-state components shrink photoflash
 control _____ E Apr 12 70g
 space-charge-limited solid-state
 devices _____ IEEE Nov 1642g

SOUND

absorption of sound in air in the
 audio-frequency range _____ AS Jan 11g
 pest control with sound _____ S Jan-Feb 39g
 selecting sound system components
 TC Feb 22g

SPACE

an evaluation of environmental testing
 EI July 70g
 an improved insulation for space use
 EI July 100g
 materials for space-age electronics
 E Oct 25 37g
 optical heterodyne - key to advanced space
 signaling _____ E July 12 29g

SPEECH

foreign accent & speech distortion
 AS Apr 451g
 loudness, sound pressure, and subglottal
 pressure in speech _____ AS Apr 454g
 speech compression CODIMEX system
 PGA Mar-Apr 63g
 word-frequency effect & errors in the
 perception of speech _____ AS Feb 200g

STEREOPHONY

alignment & adjustment of FM-Stereo
 tuners & adapters _____ A Jan 26g
 alignment equipment for stereo FM
 PF Mar 32g
 apparent height & position in stereo
 FN Feb 609g
 automated multiplex _____ RE Apr 45c
 build a stereo indicator _____ PE Sept 63c
 checking stereo separation & phase
 EW Oct 37g
 constructing & aligning the MPX
 PE May 69c
 FM-stereo finder _____ EL May 36c
 FM-stereo in hi-fi packages _____ RE Apr 32g
 FM-Stereo reception _____ A Jan 19g
 high-quality transistorized stereo
 preamplifier _____ A Jan 35c
 is stereo worthwhile? _____ FN Sept 229g
 MPX meter _____ PE Nov 41c
 multipath problems in FM stereo reception
 TC Sept 50g
 personal world of headphone stereo
 FN Mar 698g
 quality stereo on a budget _____ FN Nov 415g
 FN Dec 518g
 room acoustics for stereo _____ HF Feb 50g
 some aspects of stereophony
 applicable to conference use AES July 212g

23

phasemeter for audio frequencies
 random noise generator _____ EW Nov 43c
 signal stethoscope _____ RE Aug 68c
 simple coax cable tester _____ PE July 59c
 simple vacuum tube mini-ohmmeter
 _____ EI May 126c
 taming the diode field strength meter
 _____ CQ Feb 44g
 test set for FM _____ CQ Nov 74c
 test your transistors with your VTVM
 _____ RE Jan 40c
 transistor millivoltmeter _____ WW May 247c
 transistor tester roundup _____ PE Jan 65g
 transistorized audio voltmeter A Apr 19c
 trans-switch-electronic scope
 switch _____ RE June 44c
 tunnel diode high-resistance checker
 _____ EW June 86g
 tunnel diode radio frequency generator
 _____ PE Feb 44c
 Wireless World oscilloscope WW Mar 121g
 WW Apr 156c WW May 210c
 WW June 257c WW July 340c
 WW Aug 398g

THEORY

what is an electric current _____ WW Feb 99i

THERMISTORS

theory & application of self-heated
 thermistors _____ IEEE Oct 1292g
 thermistors for temperature stabilization
 of transistor circuits _____ EI Apr 109g

THERMOELECTRICITY

characteristics of thermoelectric materials
 _____ SP Apr 34g
 development of thermoelectric power
 generators _____ IEEE May 713g
 measurements of thermoelectric materials &
 devices _____ SP Sept 13g
 physics of thermoelectricity _____ SP Apr 23g
 review of thermoelectric refrigeration
 _____ IEEE May 721g
 semimetals as thermoelectric materials
 _____ SP Apr 29g
 theory of materials for thermoelectric
 and thermomagnetic devices
 _____ IEEE May 699g
 thermoelectric generators - status 1963
 _____ SP Apr 39g

THIN-FILMS

in-line cryotron _____ IEEE Mar 442g
 insulated-gate thin-film transistors
 _____ RCA June 153g
 latest thing in thin-films: automatic
 deposition control _____ E Mar 29 33g
 new charts speed thin-film resistor design
 _____ E Apr 12 72d

new thin-film amplifier, inductor no
 problem _____ E June 7 46g

TOROIDS

toroids, how to use them at high frequencies
 _____ ED Apr 12 78g

TRANSCEIVERS

CB transceiver maintenance _____ TC Jan 28g
 compact mobile transceiver _____ CQ Apr 26c
 compact six meter transceiver EW Apr 43c
 compact two meter transceiver CQ Apr 65c
 50 Mc hand-carried transceiver

_____ QST June 44c
 handi-talkie for 7 Mc. _____ QST Nov 45c
 7-mc mobile S.S.B. transceiver QST Aug 11c
 solid-state S.S.B. transceiver

_____ QST June 27c
 two band mobile S.S.B. transceiver
 _____ CQ Jan 31c
 twoer & sixer modifications _____ CQ Oct 34c

TRANSDUCERS

capacitive transducers with transistor
 amplifiers _____ WW Oct 507g
 high-frequency stylus-groove
 relationships in phonograph
 cartridge transducers _____ AES July 250g
 new transducers for communicating by
 seismic waves _____ E Apr 12 51g
 resolution of pressure in turbulence
 _____ AS Feb 192g
 theory of composite transducers AS Jan 74g

TRANSFORMERS

hysteresis-loop plotter _____ EW May 29c
 output-transformer chart _____ EW Dec 57d

TRANSISTORS

aluminum wire bonding of silicon
 transistors _____ SP Nov 27g
 analysis of switching behavior of graded
 base transistors _____ EE Aug 500g
 avalanching transistor generates microwaves
 _____ E Oct 25 35g
 better ways to measure noise in transistors
 _____ ED Mar 15 46g
 building a simple transistor tester
 _____ E Apr 19 56c
 case for low pinch-off voltages in FETs
 _____ ED Oct 11 46g
 characteristics of unipolar field-effect
 transistors _____ EI Mar 99g
 combining FETs for higher gains
 _____ ED Sept 27 36g
 coplanar-electrode insulated-gate
 thin-film transistors _____ RCA Dec 661g
 design of solid-state stereo power amplifiers
 with silicon transistors _____ A Jan 21g
 evaluation of cadmium selenide films
 for use in thin-film transistors
 _____ RCA Dec 676g
 field-effect transistor—a review RCA Dec 641g

field-effect transistors — ED Apr 26 66d
 first details transistor-transistor logic
 circuits — E Mar 22 54g
 forward or reverse transistor AGC? — ED Oct 25 64g
 fresh approach to measuring transistor
 Beta — E July 26 47g
 generating linear waveforms with field-effect
 transistors — ED Jan 4 66g
 getting both reliability & economy in
 power-transistor circuits — E May 24 54g
 high-speed servo positioner bonds mesa
 transistors — E Feb 8 58g
 how to choose transistors for low noise — E Jan 11 50g
 logic principles for multi-emitter
 transistors — E Sept 13 25g
 making transistor outputs easy to
 understand — PF Dec 26g
 new approach to transistor reliability
 prediction — SP Jan 28g
 novel field-effect device provides broadband
 gain — E Nov 1 30g
 1 Gc coaxial transistor for mixer &
 oscillator application — SP Jan 15g
 power dissipation in resistors or
 transistors — RE Aug 31d
 power transistor specifications — EW Jan 44g
 power vs signal in transistors — PF June 36g
 practical way to measure transistor thermal
 resistance — E Feb 15 66g
 replacements for non-standard domestic
 transistors — EW Sept 36d
 selective transistor I. F. strip & dual
 detector system — QST Jan 42g
 silicon insulated-gate field-effect transistor — IEEE Sept 1190g
 soldering irons for transistor circuitry — TC Feb 37g
 temperature stabilization of transistors — SP Jan 24g
 tolerancing the transistor NOR circuit — EE Oct 659g
 transfer characteristics of field-effect
 transistors — RCA Dec 688g
 transistor cut-off frequencies — WW Sept 453g
 transistor flip-flops-worst-case design
 is your best bet. — ED Nov 8 58g
 ED Dec 6 60g ED Nov 22 54g
 transistor mounting simplified — ED May 24 52g
 transistor story — FN Oct 330g
 transistors as switches — WW Apr 195g
 transistors for hi-fi - panacea or
 pandemonium — EW Sept 37g
 EW Oct 38g
 transistors in audio — FN Oct 315g
 transistors in hi-fi — PF Sept 32g

transistors vs tubes for hi-fi — EW Nov 48g
 try field effect transistors for redundancy — ED Jan 18 74g
 understanding transistors as applied to
 amateur radio — CQ Jan 49g
 unijunction transistor simplifies voltage-
 frequency converter — E Oct 25 56g
 use of transistors in industrial timer
 circuits — EE June 366g

TRANSMISSION

a closer look at TV/FM transmission lines — TC Mar 52g
 review of transmission lines — BE May 26g
 simplified transmission-line calculations — QST July 17g
 unique synchronizing technique increases
 digital transmission rates — E Mar 15 75g
 VLF standard frequency transmissions — IEEE Nov 1487g

TRANSMITTERS

AMATEUR

coil-winding nomogram — EW Apr 33d
 construction & calibration of a V.F.O. — CQ July 42c
 crystal V.F.O. — QST May 45c
 economical TVI free 6 meter transmitter — CQ Aug 16c
 4-1000A in grounded grid — QST July 29c
 Hetrociter — CQ Apr 20c
 lamp characteristics for dummy loads — CQ Jan 37d
 medium-power band-switching VHF
 transmitter — QST Dec 11c
 modifying the DSB-100 — CQ Mar 33c
 putting the ARC-5/T18 on 160 & 80
 meters — QST Feb 34c
 simple construction in a two-band
 transmitter — QST Jan 33c
 single-sideband sixer — QST Oct 11c
 solid-state 3-watt CB-ham transmitter — EW Oct 46c
 stable but variable frequency-control
 system for the V.H.F. bands — QST July 11c
 super-pi transmitter — CQ Jan 20c
 22 watt monster — CQ Dec 28c
 2Kw P.E.P. linear amplifier — CQ Oct 30c
 V.F.O. for 50-Mc transmitters — QST Aug 26c
 broadbanding transmitter output
 stages — ED July 5 38g
 design of a 4-watt 8.31Mc transmitter — EE May 292g
 new aerospace transmitter packs 3-watts
 in fist-sized can — E Jan 18 52g
 operation of high-power television
 transmitters in parallel — MP Jan 1g

remote control of broadcast transmitters
BE Sept 10g
tunnel diode remote control transmitter
RE June 37c

TUBES

CCS & ICAS tube ratings CQ Jan 30g
coaxial magnetrons, a new class of tubes
EI Jan 90g

experimental photomixer image tube
IEEE Jan 162g

IRE standards on electron tubes
IEEE Mar 434g

new tubes for color TV RE Dec 42g
photoemission & photomultipliers

IEEE Aug 119g
problems of tube short testing EW Jan 56g
receiving tube grid current EW Feb 50g
recording storage tubes & their applications
EW May 21g

some circuit techniques for use with
cold-cathode triodes EE Apr 229g
stock guide for TV tubes PF Apr 76d
tube family tree PE May 45g
PE June 73g PE Aug 51g

TVIST: new look in photoelectric
storage tubes E June 21 74g
using the 4X250B as a frequency
multiplier to 432 Mc. QST Jan 30g
why so many new tubes TC May 48g

TUNERS

alignment & adjustment of FM-Stereo
tuners & adapters A Jan 26g
FM tuner characteristics - & their relative
importance A Aug 19g
A Sept 44g

General Electric AM FM Tuners chassis
TU 220 TC Jan s

laboratory test of stereo FM tuners
HR Jan 46g HR Feb 62g
Magnavox AM-FM tuner model 77-01

TC July s
tuner repairs made easy PF May 28g
upgrading simple FM tuners EW May 80g

TURNABLES

turntable testing at home EW Mar 29g
turntables for stereo HF Mar 52g

U

ULTRASONICS

generating ultrasonics at microwave
frequencies EI Nov 93g
piezoelectricity & ultrasonics S Jan-Feb 46g
statistical approach to ultrasonic cavitation
AS Oct 1575g
ultrasonic sniffer PE Mar 41c
ultrasonics thickness measuring
instrument using transistor logic
techniques EE Nov 738g
ultrasonics & dentistry S Mar-Apr 15g
ultrasonics in communications & production
E Oct 18 33g

V

VARACTORS

using varactors to extend
frequency-control range E Nov 8 48g

VIBRATION

control of acceleration level during
swept frequency vibration testing
EE May 316g

VOLTAGE

choosing a voltage reference EI Aug 129g

W

WAVEFORMS

generating linear waveforms with
field-effect transistors ED Jan 4 66g

WAVEGUIDES

field map for the waveguide Y-junction
circulator EE Aug 540g
long distance waveguide transmission using
frequency modulation EE Jan 2g
TE- & TM-waves in waveguides of
very general cross section IEEE Nov 1436g

NOTES

RADIO MAGAZINES, INC.

Book Division

P. O. Box 629

Mineola, New York

IN CASE YOU HAVEN'T HEARD . . .

Now you can save by ordering the book you need
. . . through our BOOK DIVISION

For any hard-cover book in print, whether text, technical, reference or non-fiction . . . send only 90% of the regular list price, with full title and publisher. We ship promptly by mail with no postage or handling charge.

ORDER NOW!!! Get the book you need and SAVE!

RADIO MAGAZINES, INC.

Book Division

P. O. Box 629

Mineola, New York

PERIODICALS INDEXED

A	Audio	HR	Hi-Fi/Stereo Review
AES	Journal of Audio Engineering Society	IEEE	Proceedings of I. E. E. E.
AS	Journal of Acoustical Society	MP	Journal of S. M. P. T. E.
BE	Broadcast Engineering	PE	Popular Electronics
CQ	CQ	PF	PF Reporter
E	Electronics	PGA	Prof. Group-Audio
ED	Electronic Design	QST	QST
EE	Electronic Engineering	RCA	RCA Review
EI	Electronic Industries	RE	Radio-Electronics
EL	Electronics Illustrated	S	Sound
EW	Electronics World	S9	S9
FN	Hi-Fi News	SP	Semiconductor Products
HF	High Fidelity	TC	Electronic Technician
		TR	Tape Recording
		WW	Wireless World

LECTRODEX

P. O. Box 629
Mincola, N. Y.